

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of approximation of respective colors of pixels of a digital image formed of several pixel rows and pixel columns, the method comprising selecting, from a look-up table and successively for each pixel, a color having a code which comes close with a smallest error to a sum of a code of a current pixel's color and of a correction term, wherein a correction term for each pixel of each row of the digital image after a first pixel of each row is equal to a smallest error calculated upon approximation of only one preceding pixel, assigned with a weighting coefficient depending on a position of a current pixel in the image.

2. (Original) The method of claim 1, wherein the weighting coefficient is a function of respective least significant bits of binary codes representing an abscissa and an ordinate of the position of the current pixel.

3. (Original) The method of claim 2, wherein the weighting coefficient is chosen:

from among a first and a second value when the least significant bit of the abscissa of the position of the current pixel is null and when respectively, the least significant bit of the ordinate of the position of the current pixel is null or equal to one, and

from among a third and a fourth value when the least significant bit of the abscissa of the position of the current pixel is equal to one and when respectively, the least significant bit of the ordinate of the position of the current pixel is null or equal to one.

4. (Original) The method of claim 3, wherein:

the first value is equal to 0.25,

the second value is equal to 1.00,

the third value is equal to 0.75, and

the fourth value is equal to 0.50.

5. (Previously Presented) The method of claim 1, wherein the image is scanned row by row, and the correction term is null for the first pixel of each row.

6. (Original) An electronic circuit for approximating the respective colors of pixels of a digital image, including means for implementing the method of claim 1.

7. (Original) The electronic circuit of claim 6, wherein the means include:

a memory in which are stored codes of colors of the look-up table, coded in the same way as the pixel colors;

an evaluation circuit having a first input that receives a color code from the memory and a second input that receives the code of a pixel of the image plus a correction term, the evaluation circuit selecting the stored color having the code that comes close with the smallest error; and

a correction circuit, an input of which is connected to an output of the evaluation circuit, for generating a corrected code, equal to the sum of the code of the color of a current pixel and of the correction term.

8. (Currently Amended) A method of compressing a digital image having pixels arranged in rows and columns and each pixel having a color represented by a color code, the method comprising:

selecting, for a current one of the pixels of the digital image, one of a plurality of weighting coefficients based on a position of the current pixel;

computing a sum of a correction term and a color code of the current pixel, the correction term being equal to an error value computed for a previous single one of the pixels multiplied by the selected weighting coefficient for the current pixel;

selecting for the current pixel an estimated color from a plurality of estimated colors, the selected estimated color being an estimated color that most closely matches the computed sum; and

replacing the color code of the current pixel with the selected estimated color, wherein a correction term for each pixel of each row after a first pixel of each row is also equal to only an error value computed for a previous single one of the pixels multiplied by a selected weighting coefficient for a current pixel.

9. (Original) The method of claim 8, further comprising computing for the current pixel an error value equal to a difference between the computed sum and the color code for the current pixel and using the computed error value for the current pixel to compute a correction term for a subsequent one of the pixels.

10. (Original) The method of claim 8 wherein the position of the current pixel has an ordinate value with a first least significant bit and an abscissa value with a second least significant bit and the selected weighting coefficient is selected as a function of the first and second least significant bits.

11. (Original) The method of claim 10 wherein selecting the weighting coefficient for the current pixel includes:

selecting from among a first and a second value when the first least significant bit is null and when respectively, the second least significant bit is null or equal to one; and

selecting from among a third and a fourth value when the first least significant bit is equal to one and when respectively, the second least significant bit is null or equal to one.

12. (Original) The method of claim 11 wherein:
the first value is equal to 0.25;
the second value is equal to 1.00;
the third value is equal to 0.75; and
the fourth value is equal to 0.50.

13. (Previously Presented) The method of claim 8 wherein the digital image is scanned row by row, and the correction term is null for the first pixel of each row.

14. (Original) The method of claim 8 wherein the weighting coefficient selected for the current pixel is not selected for any pixels that are immediately adjacent to the current pixel.

15. (Currently Amended) A method of compressing a digital image having pixels arranged in rows and columns and each pixel having a color represented by a color code, the method comprising:

assigning a first variable correction coefficient to each pixel of a first group of pixels in the digital image, the first correction coefficient being based on a position of its corresponding pixel;

assigning a variable second correction coefficient to each pixel of a second group of pixels in the digital image, the second correction coefficient being based on a position of its corresponding pixel;

for each of the pixels of the first group, selecting an estimated color of a plurality of estimated colors, the selected estimated color being selected based on the color of the pixel and the first correction coefficient;

for each of the pixels of the second group, selecting an estimated color of the plurality of estimated colors, the selected estimated color for the pixel being selected based on the color of the pixel and the second correction coefficient; and

obtaining a correction term, for each current pixel of each row after the first pixel of each row, that is based on a computed error value of only a single one of the pixels previous to the current pixel.

16. (Original) The method of claim 15 wherein the pixels of the first group are not contiguous with each other and the pixels of the second group are not contiguous with each other.

17. (Previously Presented) The method of claim 15 wherein selecting an estimated color for each pixel of the first group includes, for each pixel of the first group, computing a sum of a correction term and a color code of the pixel, the correction term being equal to an error value computed for a previous single one of the pixels of the digital image multiplied by the first correction coefficient, the selected estimated color for the pixel being the estimated color that most closely matches the computed sum.

18. (Original) The method of claim 17, further comprising, for each pixel of the first group, computing an error value equal to a difference between the computed sum for the pixel and the color code for the pixel and using the computed error value for the pixel to compute a correction term for a subsequent one of the pixels of the digital image.

19. (Original) The method of claim 15 wherein the pixels of the first group alternate with the pixels of the second group in the digital image.

20. (Original) The method of claim 15, further comprising:
assigning a third correction coefficient to each pixel of a third group of pixels in the digital image;
assigning a fourth correction coefficient to each pixel of a fourth group of pixels in the digital image;

for each of the pixels of the third group, selecting an estimated color of the plurality of estimated colors, the selected estimated color for the pixel being selected based on the color of the pixel and the third correction coefficient; and

for each of the pixels of the fourth group, selecting an estimated color of the plurality of estimated colors, the selected estimated color for the pixel being selected based on the color of the pixel and the fourth correction coefficient, wherein the pixels of the first and second groups alternate with each other in a first line of the digital image and the pixels in the third and fourth groups alternate with each other in a second line of the digital image, the second line being immediately adjacent to the first line.
